

(nerves) highly degenerated. Longitudinal fasciculi of one posterior commissure entirely normal.

P. is much inclined to accept the view that the substantia ferruginea is connected with the V. nerve of the same side. The visceral crisis and laryngeal symptoms, also the disturbances of the cardiac innervation, have been caused by the grave alterations of the respiratory fasciculi.

The arciform fibre bundle which occupies the region dorsal from the respiratory bundle must be considered as a central path of the XII.; it may also contain a few fibres originating from the funic. gracil. et cuneat. nuclei, but in no way connected with the respiratory fasciculi.

As the IV. nucleus was affected in a higher degree than its roots, P. deems it very probable that the nucleus was primarily affected, the roots secondarily.

The nucleus ventralis posterior was nearly normal on the right, altered on the left side. Clinically there was ptosis of the left upper lid. P. concludes that the nucleus ventralis posterior represents the beginning of the III. nucleus and is probably the centre for the elevator of the lid; but it may also give off fibres for muscles supplied by the superior VII. nerve. The case throws no light upon the localization of the centre for the internal ocular muscles. P. accepts Schütz's and Siemerling's view that the pupillary reflexes are transmitted by way of fibres of the central pericavital central gray matter. He found an intense rarification of the fibres of this formation, while Meynert's radial fibres, which Ross declares to conduct the said transmissions, and the posterior commissure to which Darkschewitsch describes said function, were perfectly normal.

ONUF.

Pathogenesis of Acromegaly.—Prof. A. Tamburini (*Revista Sperimentale di Freniatria*, etc., 1894, fasc. iii-ix., p. 559).

The patient was an unmarried woman of thirty-six years. One brother had suffered for several months from a mental disease in which religious ideas predominated, and a sister was affected with melancholia. The patient's disease probably began at the age of twenty, and developed into typical acromegaly. She died from a progressive marasmus caused by intestinal catarrh. The autopsy revealed the presence of a tumor, size of a pigeon egg of the pituitary gland, affecting its epithelial part, while the "nervous" part was normal. No pronounced pathological changes of the thyroid gland. Brain without changes. In the spinal cord slight degeneration of Burdach's columns, and of the root zones of the cervical dorsal regions.

ONUF.

On Traumatic Tabes and the Pathogenesis of Tabes in General.—By Ed. Hitzig. Tabes is a chronic degeneration of the central nervous system—brain as well as spinal cord. Some neurological writers ascribe an ætiological importance to traumatism of any kind (mechanical or thermal injury to the periphery). Injuries to the skull and the spinal column, in so far as they are liable to be followed by gross anatomical changes of the brain and the cord itself, are not considered in the monograph.

In order to come to certain conclusions in the matter the author attempts to answer the following questions:

1. Is there an undisputed causal relationship between traumatism, (mechanical or thermal injury to the periphery) and the symptom-complex known as tabes dorsalis?

2. Are there, from an ætiological point of view, several different forms of tabes, or are they all dependent upon one common cause?

Our present knowledge supplies us with rather limited means for the solution of the first of the above questions. The literature on the subject being comparatively meagre and partly incomplete, we hardly can expect the result of this research to be conclusive. Four cases of the author's personal observation, 41 cases scattered through the older litera-

ture, and 21 unpublished cases of Erb form the material. Out of this totality of 66 cases, 10 or 11 cases only meet the requirements of sound criticism. The evidence thus afforded justifies, in the author's opinion, the following conclusion: The occasional onset of the disease in the injured side, or even the permanent preponderance of the symptoms on this side, are neither constant nor exclusive phenomena as to enable us to construe a clinical picture characteristic of the traumatic origin of the disease. In spite of the great importance previous venereal infection plays in most of the cases of tabes, we meet with cases showing a distinct relation to traumatism, and which cannot be explained on any other grounds.

The three succeeding chapters of the monograph are devoted to the solution of the second of the above questions.

The author asserts that, in his opinion, tabes never takes its origin from a peripheral neuritis invading, as an ascending degeneration, the cord by the way of the posterior roots. The most common anatomical findings in cords of tabics are degenerations in the posterior roots and columns—both being in corresponding quantitative relations. As proof of these views the author cites the results of anatomical researches made with that object in view by one of his assistants. (Dr. Wollenberg: *Untersuchungen ueber das Verhalten der Spinal ganglion bei tabes dorsalis Arch. f. Psychiatric*, vol. xxii, p. 313.) Dr. Wollenberg found in all examined cords, even in those with extensive lesion in the posterior roots, the peripheral nerves originating from the intervertebral ganglion, and the latter itself perfectly normal. The disease might invade slightly the cells of the ganglions, not interfering with the performance of its function.

These facts, in conjunction with the Wallerian law of degeneration, hardly admit any other explanation than the following: The degeneration of the posterior roots met with in cases of typical tabes, cannot be looked upon as a descending degeneration towards the spinal ganglion. In all probability it is an independent, and most probably the primary process, from which the degeneration of the cord arises, partially, at least, as a secondary ascending degeneration. On account of the discrepancy, though existing sometimes between the extension of the pathological changes of the root-fibres in their intra- and extra-medullary course, to the above statement, the addition has to be made, that the irritation of the posterior roots destroys the whole course of the fibres from the inter-vertebral ganglia. Under the influence of unknown circumstances, occasionally root fibres stay temporarily or permanently unaffected, the intra-medullary part of which is degenerated.

According to P. Marie, the nerve fibres, not having an anatomical independence, cannot be affected primarily by disease. In cases of tabes, an affection of the sensory fibres, the origin of the disease must be looked for in their nutritive cells—the cells of the inter-vertebral ganglia or cells of similar physiological dignity, scattered probably in the periphery. This theory is not proved sufficiently. Moreover, recent investigations show that after lesions of the peripheral nerves (amputations, neuritis, etc.) the cord is found to be diseased. But no case has yet been reported in which the familiar anatomical or clinical phenomena of tabes have been observed.

It is commonly known that tabic symptoms result from lesions in parts of the nervous system, which are neither anatomically continuous nor physiologically related. Traumatic tabes does not show any features distinguishing it from tabes following other causes. It is, therefore, evident that the trauma must affect all the parts of the nervous system that are affected in common forms of tabes.

Undeniably syphilitic infection is the most prominent ætiological factor of tabes. But all statistics agree that about ten per cent. of the cases are not attributable to this cause. Under the heading, syphilis, the

authors consider every venereal infection; but not every venereal infection is necessarily syphilitic. Furthermore, it is a familiar observation that just the milder forms of infection, cases without or very mild secondary symptoms, are mostly liable to be followed by tabes. Lastly, the pathological findings in tabes are quite unlike all the other pathological presentations of the syphilitic infection. With all this the percentage of non-syphilitic cases of tabes gets yet larger.

According to Strumpell the pathological character of tabes is allied to degenerations following other acute or chronic infections or intoxications. These degenerations, too, do not prevent the characters of the original exciting disease. Through the influence of the infection, chemical poisons arise, which, like others, show distinctly elective qualities.

With the aid of this theory we vainly attempt to explain the pathology of the cases not having any relation with syphilis.

Unitarians and dualists are both wrong. The author believes that venereal infections in general, and especially syphilitic infection, are caused by several poisons, either vaccinated at the moment of the infection, or created later in the course and through the development of the disease. One poison causing the primary sclerosis, might lead to secondary and tertiary symptoms; another poison, acting either at the moment of the infection, or originating later, results in a morbid disposition—changes in the blood. After a short or longer interval of time, spontaneously or after a slight exciting cause, a degeneration of the nervous system might set in as a sequelae of the morbid condition left behind. Degenerations of the nervous system caused by ergotism or pellagra are analogous phenomena.

If we can prove that trauma or refrigeration is liable to produce similar changes themselves or fertilize the organism for the action of the supposed poison, traumatic tabes can be pathologically understood.

Unless this is proved tabes following traumatism is yet an open question. FRAENKEL.

CLINICAL.

Glio-Sarcoma of the Cerebellum.—P. de Michele (*Annali di Neurologia*, 1894, p. 227).

A male, 16 years old; no syphilis; no alcoholism; no tobacco. One aunt epileptic. In January, 1892, the patient had an attack characterized by general fatigue, slight headache and slight fever, lasting about four days, which was called "influenza" by the attending physician. A week afterwards he began to have attacks of vomiting. They occurred before breakfast; and were accompanied by headache. These symptoms were associated with dyspepsia, exhaustion from the least amount of work, pain in the upper part of the dorsal region and pain in the upper extremities with violent exacerbations, which were relieved temporarily by the cautery applied to neck.

Further, the patient uttered loud yells without noticing it. Later, pain in the lower extremities, the headache localized itself in the parieto-temporal region of the right side. At this time examination revealed sensorium free, legs normal, innervation of face normal. Strabismus convergens of left eye. Bilateral neuritis optica with beginning atrophy of disc. Inco-ordination of movements of the tongue. Sense of taste on right side of tongue impaired in the anterior part. Scoliosis of the whole vertebral column with convexity to the right; head inclined to the left so that the whole body formed a curve with convexity to the right. The muscular power of all extremities diminished, muscles show lessened response to galvanic and faradic currents. General impairment of nutrition, especially marked in upper extremities. In the last months before death, sense of hearing impaired on both sides. Shortly before death paraplegia without sensory disturbances. Date of death not stated. The autopsy revealed the presence of a glio-sarcoma at the base of the